

Triton palustris. (Warty Eft.)—— *punctatus*. (Common Eft.)

PISCES.

Perca fluviatilis. (Perch.)*Cottus Gobio*. (Bullhead.)*Cyprinus Carpio*. (Common Carp.)—— *Gobio*. (Gudgeon.)—— *Tinca*. (Tench.)—— *Rutilus*. (Roach.)—— *Leuciscus*. (Dace.)—— *Cephalus*. (Chub.)—— *Phoxinus*. (Minnow.)*Cobitis barbatula*. (Bearded Loach.)*Esox Lucius*. (Pike.)*Salmo Salar*. (Common Salmon.)—— *Fario*. (Common Trout.)*Thymallus vulgaris*. (Grayling.)*Platessa Flesus*. (Flounder.) A single specimen caught with rod and line Dec. 1839, in river Lug, below Mordiford Bridge.*Anguilla acutirostris*. (Sharp-nosed Eel.) } In river Lug.—— *latirostris*. (Broad-nosed Eel.) }XXII.—*Monograph of the Dorylidæ, a Family of the Hymenoptera Heterogyna*. By W. E. SHUCKARD, Esq.

THE discovery of an insect that will, I expect, help to clear up the difficulty which has hitherto attended the completion of these genera, as yet consisting of males only, has induced me to undertake the present monograph. Although the materials with which I entered upon this task were rather scanty, they have grown upon my hands and are now coextensive with the metropolitan collections; and when we know that these comprise the collections of many individuals, all much attached to the order Hymenoptera, we must conclude that these genera are naturally poor in individuals, although the number of species that I produce far exceed all that have been hitherto described. In the genus *Dorylus* three species only have yet been noticed, two African and one Indian, but it is very questionable if one of the African species may not, understood under the name of *D. helvolus*, consist of many species from that quarter of the globe which constitute the majority of the family, for Africa is evidently

its metropolis. Our present knowledge of the range of the genus *Labidus* is of much more limited extent : it has hitherto been found only in the intertropical portion of the New World. As confusion attends the nomenclature of the species hitherto recorded, and wherein evidently several have been included, it will perhaps repay the trouble of investigation to subject them to a critical examination, for thus only will it be possible to extricate them from the disorder into which they have fallen. This has, I have no doubt, arisen from their great rarity, as probably not more than a single specimen, or perhaps specimens of a single species, have been at the time in the possession of either of the several describers, who have all attributed it to that originally published, never more than doubtfully surmising the possible existence of any but that one species ; and so fully pre-occupied must they have been with this idea, otherwise the disparity of the descriptions would have evinced at once that they belonged to different insects.

The situation which these genera occupy in the system, and their right to form a separate family, has been latterly subjected to discussion by very competent individuals—le Comte de St. Fargeau in France, and Mr. Haliday in our own country, who both seem disposed to unite them permanently with the social Heterogyna or Ants, and these views they have supported by many arguments. It is however only latterly that they have been separated from the Mutillidæ, and by these same gentlemen, although less definitely and distinctly by St. Fargeau, who calls them Genera provisionally approximated to the Heterogyna *. But Mr. Haliday has first raised them to a family equivalent to the whole of the social Ants, and which with them constitute his tribe Heterogyna†, and he at the

* It is by this author in the same work, ‘ Hist. Nat. des Insect.’ Hymen. (and in which he is followed by Mr. Haliday), that the term Heterogyna was restricted exclusively to the Social Ants. Latreille comprised within it the *Mutillidæ* also, and it thus consequently embraced all the aculeate Hymenoptera with apterous females. If the distribution thus introduced is to hold, and they are to be subdivided, and each division to be considered equivalent to the other tribes, the name *Heterogyna* ought to remain with what we now understand by the *Mutillidæ*, as it is only these that have anomalous females, this sex in the tribe of Ants, as far as they are yet known, being all winged like their males ; the term therefore in application to them is very inappropriate, unless in reference to other sexual discrepancies, and then it could be as legitimately applied to many other Hymenoptera. I shall have occasion shortly to go more particularly into this subject, and shall then discuss the propriety of the present contents and distribution of the whole of Latreille’s Heterogyna and the neighbouring groups.

† Dr. Leach had previously formed them into a family by the name *Dorylidæ*, which he incorporated with the tribe *Mutillarides*, and he made them equivalent to the whole of the remainder of the *Mutillidæ*.

same time makes the whole of Latreille's Diploptera intervene between them and the *Mutillidæ*. I am prepared with Mr. Haliday to consider them as constituting a family, but certainly not to be united at present with the Ants, nor yet can they be incorporated with the tribe *Mutillidæ*, miscalled a family, which distinctly contains several natural families, but they are a connecting link between the two. In favour of my opinion of their being as intimately allied to the *Mutillidæ* as to the Ants, I may in the first place adduce the *argumentum ad verecundiam*,—the opinions of some celebrated entomologists,—of Linnæus, Fabricius, and Latreille. It is true, Linnæus first placed the insect, which for several years singly constituted the genus *Dorylus*, in the genus *Vespa**, but he immediately afterwards transferred it to *Mutilla*†, with this note however—"Singularis species, forte hujus generis." The first time that Fabricius notices it is in his *Mantissa*‡, for he does not mention it in his two preceding works, and there he says, "Hujus generis videtur, quamvis habitus differt, nondum rite examinata. Potius forte ad Tiphias pertinet:" and in his next work, the *Entomol. Systemat.*, he constructs for it the genus *Dorylus*, and very truly says, "Genus singulare, instrumentis cibariis, mandibulis exceptis, minutissimis, attamen distinctis:" and he here places the genus between the last of his genera of Ants and the genus *Mutilla*, and subsequently made no alteration in it except by the addition of two species, the claims of which will be examined below. Latreille invariably throughout all his works placed it with the *Mutillidæ*, and we may conclude from this that his views never vacillated regarding its position; for although his works present a gradual and progressive alteration as to the grouping of insects—not always for the better—yet in this instance he was uniformly the same; and swayed doubtlessly by his observation in his 'Genera Crustaceor. §,' where he says of the two genera, of which he had there formed a distinct section of the family, "Labidorum et Dorylorum œconomia latet, et masculi tantum noti; feminae forsan apterae et solitariae degentes. Si, ut formicarum, societates inirent, frequentius quam masculi colligerentur." But he here places them in close approximation to the genus *Formica*. Jurine, although the founder of the genus *Labidus*, can scarcely be adduced as an authority for systematic distribution; yet he also places them in close approach to the Ants, but before *Cynips*, and puts the genus *Labidus* in juxtaposition with *Dorylus*, of which no doubt was ever enter-

* Museum, Ludov. Ulric. Regin. p. 412.

† System. Nat. ii. 967.

‡ Tom. i. p. 313. 18. 1787.

§ Genera Crust. et Insect. p. 124. Annotatio.

tained except by St. Fargeau*, although he says apparent analogy induces him to leave them together. To me however it is evident that, with the exception of the small difference in the neuration of the wings, the genera are very much alike, and this affinity is still further proved by means of the new genus I describe below by the name of *Ænictus ambiguus*, which deprived of its wings might easily pass for a *Labidus*, it having the same kind of canaliculated peduncle to the abdomen, and legs like the latter, for neither femora nor tibiæ are compressed as in the typical *Doryli*.

In reviewing the arguments urged by St. Fargeau for placing these genera with the Social Ants in opposition to the views of Latreille, I cannot think that founded upon the structure and relative proportions of the antennæ of any value at all, as in the several species of each of these genera the structure and proportions of these organs differ considerably; and besides this, in very many of the males of the Social Ants, indeed, I may say in the majority of them, the scape or first joint of the antenna is not one-third of the length of the entire organ. In the structure of the mandibles, which he also cites in support of his opinion, there are, especially in the genus *Dorylus*, considerable differences in the species, and nothing can be more fallacious than to suppose that the structure of these organs in the genus *Dorylus* can possibly indicate ædificatorial habits; for they are edentate, forcipate, and considerably slighter in proportion than the male mandibles in the great majority of the genera of the well-known solitary Heterogyna: and his argument from the structure of the wing is not so strong as he might have made it if he had adduced the single recurrent nervure, which is a structure never found in the normal solitary Heterogyna, for they have invariably two recurrent nervures†. I admit that the mere absence of the females proves nothing as to the solitary habits of these genera, although I think with Latreille as above cited, that the presumption is in favour of their being so.

In confirmation of St. Fargeau's views, Mr. Haliday, as I observed above, has formed these two genera into a family, and has placed them in the same tribe with the Social Heterogyna, making them equivalent to the whole of this tribe; and in corroboration of St. Fargeau, he says, "*Dorylidas societate victuros more Formicarum contendit Peletierus argumentis equidem gravissimis, quibus adjicienda*

* Hist. des Hymenopt. vol. i. p. 227.

† Certainly with the exception of the genus *Apterogyna*, which is another anomalous form, and which seems to be also another connecting link at a different point with the Social Heterogyna.

videntur—squamularum defectus, (alas alterius sexus caducas innuens) et mesothorax spiraculum insigne, a structura Mutillarum aliena." Having above shown that these supposed weighty arguments of St. Fargeau are not valid, I think their corroboration must fall with them; for both of these genera have very distinct squamulæ (or tegulæ); and the mesothoracic spiracle is also conspicuous in many of the *Mutillidæ*, particularly so in the few smooth and glabrous *females* of the genus *Mutilla* itself.

If it had been possible consistently to overrule the plausibility of these being solitary insects from our previous ignorance of any that might have been appropriately assigned to them as females, the majority of the few arguments which I shall adduce in favour of their constituting a separate family, and to intervene between the Social Ants and the *Mutillidæ*, would have helped to strengthen the supposed connexion with the social tribes, which however I admit to be only a very close affinity. They are these: 1st. The before-mentioned solitary recurrent nervure to the wings; 2nd. The single calcar to all the tibiæ; 3rd. The labrum closely shutting the oral orifice and inclosing all the internal trophi; 4th. The curtailed structure of the palpi; and 5th. The enormous size of the male genital organ.

The first two circumstances evidently separate them from the *Mutillidæ*, which in all instances have two calcaria to the four posterior legs, and two recurrent nervures to the superior wings, with the solitary exception before noticed; but it is necessary to observe that in *Dorylus* the insertion of the recurrent nervure is considerably further in advance towards the second submarginal cell than it ever occurs in any of the Social Heterogyna that have but two submarginal cells. The closing of the labrum is found frequently amongst the Social Ants, but it also occurs in the Solitary Heterogyna in the female *Thynnidæ*: the fourth instance peculiarly separates them from both tribes; but in the fifth, the structure of the male organ, they exclusively resemble several of the Solitary Heterogyna, for this is evidently both in form and size a prehensile organ, and we know that it is used as such in the males of several of the genera of these solitary insects who thus seize and carry off their females; and W. S. MacLeay, Esq. has recently informed me in a letter from Sydney, New South Wales, that this is universally the case in the New Holland *Thynnidæ*, and we consequently find, where this is the case, that the male is much the largest insect. This last observation is not limited to these families, for it is confirmed in the genera *Anthidium* and *Anthophora*, amongst the Bees, both of which carry off their fe-

males and are always larger than that sex. In the Ants however the males are, as far as I correctly know them, invariably smaller and frequently disproportionately so to their partners, consequently this analogy is strongly in favour of the connexion of these genera with the *Mutillidæ*, although three of the preceding speak for their union to the social Ants. I think therefore that this combination and the peculiarity incident to themselves only in the structure of their palpi warrant me in the present state of our knowledge to consider them an osculant tribe intervening between these two, and as such I shall view them.

With respect to their habits of life I have nothing positive to state; I will however hazard the hypothesis that they are parasitical. The Ants and the *Staphylini* have been supposed to represent each other in the tropical and temperate zones. In the temperate zone, and especially in our own country, the *Staphylini* are a dominant group, and the ants a secondary one. The reverse is the case within the tropics, and the lines immediately adjacent within a few degrees north and south. In our own country and throughout Europe we find several species of this northern dominant group parasitical in the nests of Ants; and, *ceteris paribus*, why may there not be, where the Ants themselves are the dominant group, an analogous instance of a genus closely allied to the Ants parasitical upon them? For the genus *Bombus* is another dominant northern group which has a parasite—the genus *Psithyrus*—so like it, that they were not until latterly separated from it, although sufficiently distinct; and in this genus *Psithyrus* the males greatly predominate in number. Now if I can show that the two genera *Dorylus* and *Labidus* are considerably alike, and in many points analogous to the genus *Ponera* among the Ants, which although not exclusively a tropical form, yet chiefly so,—which however strays into Europe and as far north as England, but it is most fully developed in Africa and South America, and another form of it wanders into New Holland*,—I think it will be admitted that there is some plausibility in the supposition that these extraordinary genera may possibly be parasites upon the Social Ants; and when it is further seen that the female, which I surmise may belong to the genus *Labidus*, is both apterous and blind, it becomes further probable that she may seldom quit the nest where she is a parasite; and this will in a great measure account for specimens of this sex rarely coming to Europe, as it is not to be sup-

* There are three distinct types in the genus *Ponera*, which ought to form so many sections, and these seem to follow countries, viz. northern, southern and tropical.

posed that disturbing a nest of Ants for the sake of examining its contents, even if it have ever been thought of within the tropics, is there the same slight matter that it is here, and that it may be executed with the same impunity. The colonies of these insects in hot climates are very populous, and their sting much more venomous than here, the poison increasing in intensity with the degree of heat; besides which, the collectors in those climates are either natives or negroes, who would be contented with what chance might throw in their way, without exposing themselves to the possibility of a conflict with such redoubtable opponents as a colony of Ants.

I am prepared, in pursuit of the above conjecture, to show a considerable degree of resemblance, as I said just now, in many points of *analogy* between *Ponera* and the *Dorylidæ*. I possess a male of the former from Western Africa, which in its minute head, large ocelli, elongate cylindrical body, and node of the abdomen, very much resembles a *Dorylus*, and in the neuration of its wings it is a close approximation to *Labidus*; but notwithstanding these particulars it is but an analogy, for the trophi are totally dissimilar, and there it is a genuine Ant. I have just now stated the female which I have so often alluded to is blind, and this is the case in the species of *Ponera* that occurs in this country, the only European species of the genus; and besides which this remarkable little female has three minute spines at the apex of the abdomen, a character found in the *Ponera crassinoda* from Demerara, but which occurs, as far as I have had the opportunity of examining, in no other *female* of any hymenopterous genus. In *Labidus* also the calcar of the four posterior legs is dilated at its base and acuminate at the apex, a character found in one of each of the calcaria of the four posterior legs of *Ponera*; these I consider all strong analogical circumstances. In conclusion I would observe that I think it extremely probable that these females are of very voracious habits, for the perfect one I possess has within its mandibles a portion of the wing of apparently a *Termes**; and the second species, of which I have only the head, is attached by the mandible to the thigh of a large *Formica*, an insect six times its size. I willingly allow that an important portion of the whole of this argument wants direct confirmation as far as regards what I consider may be the female *Labidus*, for although the points of resemblance which I shall below show are many and strong, yet are they only conjectural: but how shall it be proved or disproved,

* I once thought it possible that they might be parasitical upon this genus, but I speedily discarded this idea as merely a vague hypothesis.

unless by actual observation, that it does or does not belong to this genus, and what its sex may be—and when may we hope for this?

In the absence of such direct testimony, and of any insect that may be more consistently united with this little female as its legitimate partner, I shall not hesitate continuing to consider my conjecture of their identity as correct, particularly as it seems confirmed by the structure of the palpi in all.

I shall here therefore terminate these general observations, and proceed with the Monograph, premising that I have found it necessary throughout to give ample specific descriptions to prevent the possibility of mistake. I consider the position of the family in the system will stand thus:

HETEROGYNA, LATR.

SOCIALES, Latr.

Formicidæ, &c.

PARASITICÆ? Shuck.

Dorylidæ, Halid.

SOLITARIÆ, Latr.

Mutillidæ, &c. &c.

Family DORYLIDÆ, Haliday.

DORYLIDA, Leach.*

CHAR. *Head* transverse, small.

Eyes and *ocelli* large and prominent.

Antennæ setaceous, not geniculated.

Mandibles edentate, forcipate.

Body elongate, cylindrical; superior wings with two or three submarginal cells and one or two recurrent nervures: one calcar to all the tibiæ.

Abdomen with the basal segment usually smaller than the following, from which it is separated by a deep incision.

Table of the Genera.

One recurrent nervure:

Three submarginal cells 1. LABIDUS, Jurine.

Two submarginal cells

Femora cylindrical 2. ÆNICTUS, Shuck.

Femora compressed 3. DORYLUS, Fab.

Two recurrent nervures 4. RHOGMUS, Shuck.

I have arranged the family according to what I consider their most

* In Brewster's Encyclop. Art. Entomology.

proximate affinities. Thus *Rhogmus* by its two recurrent nervures leads off to the *Mutillidæ*, and from general habit *Dorylus* closely approaches it: between the latter and *Labidus* intervenes *Ænictus*, which participates in the characters of both; whilst finally, taking them inversely, *Labidus* distinctly points towards *Ponera* amongst the Social Heterogyna.

Genus 1. LABIDUS, Jurine.

DORYLUS, Fab. partly?

CHAR. *Body* elongate, cylindrical.

Head small, short, transverse, flat.

Antennæ varying in length, usually setaceous, curved and inserted within two facial projections (forming vertical carinæ) upon the anterior margin of the nearly obsolete clypeus, the scape never more than one-fourth the length of the flagellum, the apex of which frequently extends as far back as the insertion of the superior wings.

Eyes large, lateral, subglobose, and very prominent.

Ocelli large and very prominent, and placed in a curve upon the vertex.

Mandibles elongate, slender, arcuate, and forcipate, always leaving an open space usually semicircular between them and the clypeus.

Labrum triangular, the apex rounded, and in repose shutting down upon and inclosing the internal trophi.

Maxillæ ———?

Maxillary palpi two-jointed, shorter than the labial?*

Labial palpi two-jointed, slender, the basal joint the longest.

Labium triangular.

Thorax ovate, gibbous: *prothorax* extending laterally to the insertion of the wings, which is at about half the length of the thorax: *scutellum* transverse: *metathorax* perpendicular and abruptly truncated.

Superior wings usually as long or longer than the abdomen, rarely shorter,

* Latreille throughout all his works says the "maxillary palpi are at least as long as the labial, and consist of four or at least three joints," (*Palpi maxillares labialium saltem longitudine, articulis quatuor aut ad minimum tribus.*—*Genera Crustac. et Insect.*, iv. 123.) except in his portion of the 'Règne Animal' of Cuvier, where he says, vol. v. p. 315, that they consist of at least four joints: but he here further says of this genus, that the mandibles are shorter and less slender than in *Dorylus*; the reverse of which is the case. Now all this implies very unsatisfactory uncertainty, and I am therefore disposed to consider that Jurine is correct, and that the palpi are constructed as stated in the text. I have unfortunately not had the opportunity of dissecting a specimen, as only single specimens of any species are extant in any collection, and the extreme minuteness of the parts would involve the certain destruction of the head: from the same cause I have been unable to examine the male sexual organ, and to compare it with those of the other genera; but this is the less necessary here, as the genus is otherwise very obviously distinguishable from the rest.

with one marginal and three submarginal cells, which vary in form in the species, and one recurrent nerve, which is inserted about the middle of the second submarginal cell *.

Legs varying in length in the species: *coxæ* large, not deeply excavated above: *trochanters* small, triangular: *femora* and *tibiæ* cylindrical, all the latter with a single calcar at their apex, which is usually dilated at the base: *tarsi* long and slender, the basal joint the most robust and the longest, the remainder decreasing in length, excepting the terminal one, which is a little longer than the penultimate: *claws* armed with a minute tooth just within the apex, and furnished with a small pulvillus within their fork.

Abdomen cylindrical, slightly curved, the segments frequently slightly constricted, the basal one forming a variously constructed peduncle, occasionally either flat or concave above, but most frequently transversely convex, and always separated from the following by a deep incisure. Penultimate and antepenultimate segments subequal, and the terminal one strictly compressed vertically at its apex, where it is profoundly emarginate.—The male sexual organ usually protruding in the form of a deeply canaliculated and emarginated plate or two acuminate compressed and curved spines †.

Type of the genus, *LABIDUS Latreillii*, Jurine.

As far as yet discovered, the insects of this genus are all from the New World, and I believe inter- or subtropical. Their habits have not been observed, nor have their females been yet detected with certainty, although it is perhaps probable that the insects I describe below as such may be so; at all events they have a decidedly close affinity to the present genus. The arguments whereby I support this view will be exhibited in connexion with the insects themselves. Although three species of this genus have been described, they have been attributed to the same, but that they are not identical will be shown in the synonymy. As the first species was described by a patronymic, I have followed this example, and have dedicated them all to individuals distinguished for their attachment to the Hymenoptera.

* The larger relative proportions of the wings in this genus is shown by a comparison of their expansion with the length of the insect; I have therefore always given both these admeasurements.

† The form of this organ I regret I cannot examine, for the sake of comparison with those of the other genera of this remarkable family. It must necessarily very much differ from the others, even more than they do *inter se*, from the peculiar structure of the apex of the terminal segment; but I suspect it would most resemble that of *Rhogmus*, with which the genus agrees in the vertical incision of the dorsal portion of the terminal segment.

* *Peduncle subtriangular and concave above.*

Sp. 1. *Lab. Fargeavii, Shuck.*

Length 14 lines.

Rufo-fusco-hirtus, capite thoraceque et femoribus nigris, cætera rufo-fuscus, abdomine suprâ rufo-sericeo.

Labidus Latreillii, St. Fargeau, Hist. Nat. des Hymenop. (Suites à Buffon), tom. i. p. 229. i.

“Head and antennæ black. Mandibles brown black. Thorax black: metathorax prolonged in the centre of its sides into an obtuse point. Abdomen, legs, and tarsi reddish brown. First segment of the abdomen furrowed longitudinally above; its sides raised into a carina which terminates posteriorly in a point. The whole insect enveloped in long reddish upright hair, excepting the back of the 2—5 and base of the sixth segments of the abdomen, but which are covered with a close decumbent reddish silky down. Femora blackish. Wings of a reddish yellow.”

I have not seen the preceding insect, but a comparison of its description, which is verbally translated above, with the next but one, which is the genuine *Lab. Latreillii*, will distinctly show that they must be different, and that the present one was incorrectly attributed. I have consequently given it the name of its distinguished describer. It is apparently the largest in the genus.

Sp. 2. *Lab. Jurinii, Shuck.*

Length $10\frac{1}{2}$ lines;

Expansion 20 lines.

Rufo-testaceus, pubescens: capite (mandibulis antennisque exceptis) nigro; pedunculo abdominis subtrigono, supra valde concavo; pedibus longissimis.

Entirely of a reddish testaceous, excepting the vertex and the face, which are black. It is throughout pubescent, excepting the metathorax and the surface of the peduncle. The antennæ are long, setaceous, and curved; the scape robust, and about one-fourth the length of these organs, which are inserted about the middle of the clypeus, within two deep cavities internally acutely carinated, and these carinæ, which ascend the face, abruptly truncated at about one-third the length of the scape: ocelli placed in an equilateral triangle on the vertex: mandibles very long and much arched, leaving a nearly circular space between them and the clypeus.

Thorax having the scutellum moderately large and prominent, not very gibbous: metathorax smooth and shining, nearly perpendicular: superior wings with their marginal cell lanceolate; the first submarginal pentagonal, and larger than the second, from which it is separated by a waved transverso-cubital; the second transverso-cubital straight and directly transverse; the recurrent nervure inserted at about one-third the length of the second submarginal: legs long, the posterior pair extending as

far as the apex of the abdomen: the basal joint of the posterior tarsi very robust.

Abdomen opaque, curved downwards, the segments not constricted: the peduncle subtrigonal, narrower than the following, rounded at the base, concave and shining above, the posterior angles produced, and the ventral portion smooth and not produced; the terminal segment vertically but not acutely compressed at its extreme apex, where it is deeply emarginate.

In my own cabinet.

This species is from Demerara I believe. The difference of size prevents my considering it the type, which is the next; this, although not a conclusive point in the majority of insects, I think may by analogy be considered so here, for in the genus *Dorylus*, in which I have had the opportunity of examining many individuals of several species, there is none or but a very immaterial difference in their size. In the present genus I have seen but single specimens of any species. To judge from the description, the distribution of colour, and the structure, are apparently the same, excepting that in the next the neuration of the wings is brown, whereas in this they are of the same colour as the body.

Sp. 3. Lab. Latreillii, Jurine.

Length 8 lines.

Rufo-testaceus, pubescens: capite (mandibulis, antennisque exceptis) nigricante; pedunculo abdominis subtrigono, supra in medio plano, ad latera elevato; nervis alarum brunneis.

Jurine, Nouv. Method. Hymenop., p. 282.

Latreille, Genera Crustac. et Insect. iv. 123.

——— Nouv. Dict. d'Hist. Nat., 2^e éd. tom. xvii. 141.

“Body reddish, pubescent. Head blackish, excepting the antennæ and mandibles, which are of the same colour as the body. Ocelli are placed in a triangle on the vertex: the superior wings are of a bright fulvous tint, and the nervures brown; their marginal cell is oval and elongate; the first submarginal is nearly square, the second is smaller and receives the recurrent nervure: the tibiæ increase in thickness to their extremity, and the calcar at their apex is broad at the base, as is also the basal joint of the tarsi.

“The abdomen is elongate and curved at its apex; the peduncle has the form of a saddle, the sides being raised.”

This insect Latreille says is from Cayenne. I have not seen the species, consequently his description given in the second edition of the ‘Nouveau Dictionnaire d’Hist. Nat.’ is here repeated. It is very probable that he received it from M. Jurine, who dedicated the species to him. Others have frequently been mistaken for it, but I think its size and other peculiarities sufficiently distinguish it

from any that I know. It is remarkable that this genus should have suffered neglect so long as to have had but one species distinctly recorded.

** Peduncle more or less convex.

† Transverse-quadrate.

Sp. 4. *Lab. Halidaii*, Shuck.

Length 7 lines;

Expansion $14\frac{1}{2}$ lines.

Rufo-testaceus, pubescens: capite (clypeo, mandibulis antennisque exceptis) nigro; stigma alarum brunnea: et abdominis pedunculo transverso-quadrate, supra in medio convexo.

Lab. Latreillii, Haliday. Linn. Trans., vol. xvii. p. 328.

Body reddish testaceous, pubescent, especially about the coxæ, beneath the peduncle, and towards the apex of the abdomen. Head black, excepting the clypeus, mandibles and antennæ, which are of the same colour as the body; the latter are inserted nearer the middle of the face than usual, the carinæ behind which they are inserted terminating abruptly near the anterior ocellus. The ocelli placed in a curve upon the vertex; the scape not much more than one-sixth the length of the whole antennæ: the mandibles small, leaving but a small aperture between them and the clypeus.

Thorax very gibbous in front, as also at the scutellum: metathorax abruptly perpendicular, slightly produced laterally: superior wings with their stigma brown, marginal cell lanceolate, slightly acuminate from the apex of the second submarginal, and scarcely larger than either of the two first submarginals, which are also nearly equal in size: the first transverso-cubital nervure straight, and the second cubital cell receiving the recurrent nervure at about one half of its length, beyond which the cubital nervure becomes a little thickened: legs short and very slender.

Abdomen very shining: its first segment transverse-quadrate, and a little wider than the second, the posterior angles truncated, and with a small convex elevation in the centre of its superior surface, its ventral portion scarcely produced; the third and fourth segments slightly constricted at their base, and the terminal one acutely vertically compressed at its apex, where it has a deep fissure; and the sexual organ protruding beneath in the form of a slightly convex plate, deeply emarginate, with the lateral processes very acute.

In the collection of Capt. King, R.N. and Mr. Curtis.

This insect is from St. Paul, on the Brazilian coast. It is the specimen examined by Mr. Haliday, and considered as the *Labidus Latreillii* in his description of Capt. King's insects; but that it is not this insect, a comparison of its description with the preceding will amply show. I have accordingly dedicated it to Mr. Haliday. In the observations on the next species I shall mark its differences from that.

Sp. 5. Lab. Swainsonii, Shuck.

Length $6\frac{1}{2}$ lines ;

Expansion 13 lines.

Rufo-testaceus, pubescens, capite (mandibulis antennisque exceptis) castaneo : pedunculo abdominis transverso-quadrato supra subconvexo ; pedibus brevis.

Body of a pale reddish testaceous. Head, with the exception of the mandibles and antennæ, of a bright castaneous ; the carinæ of the face, behind which the antennæ are inserted, very prominent, and terminating gradually in front of the anterior ocellus ; the ocelli placed in a curved line on the vertex : the antennæ having the flagellum at the base, as stout as the scape, which is a little less than one-fourth the length of the organ : mandibles long and very slender, leaving a large semicircular space between them and the clypeus.

Thorax in front and scutellum very gibbous : metathorax perpendicular and slightly produced laterally : superior wings with their nervures and stigma pale testaceous : the marginal cell lanceolate, slightly acuminate beyond the second submarginal, the first of the latter narrow, pentagonal, less than the second, from which it is separated by a waved nervure : the second also narrow, but growing more so towards its apex, where it is separated by a short straight nervure from the following ; it is much less than the marginal cell, and has the recurrent nervure inserted about its middle, beyond which to the apex of this cell the cubital nervure is considerably thickened : legs short and slender.

Abdomen slightly shining, its peduncle transverse-quadrate, with the angles rounded, the surface plane, except towards its apex, where it has a slight convex transverse ridge, and is as wide as the second segment, its ventral portion slightly produced ; the base of all the segments very slightly constricted, and the extreme apex of the terminal one considerably compressed vertically, where it has a deep fissure : the male sexual organ protruding beneath, in the form of a deeply and concavely emarginated plate, the lateral processes of which form acutely acuminate slightly upcurved spines.

In my own collection.

This insect was captured by Mr. Swainson in the Brazils, to whose entomological exertions there we are indebted for the knowledge of several undescribed species, and this I accordingly dedicate to him. It is distinguished from the preceding by many particulars, but most obviously by the relative proportions of the marginal and first and second submarginal cells.

[To be continued.]

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